Precision HD

HANDLE CAMERA SYSTEM

SKYTRON®

OWNERS MANUAL

TEC-B-0008 REV5
01/31/2013

TABLE OF CONTENTS

TITLE	PAGE
Equipment Labels	2
Camera Control Unit Safety Instructions	3
Special User Attention	4
Introduction	5
Installation	6
Camera Installation	6
Camera Removal	6
Counterweight	7
Sterilizable Cover	7
Operation	8
Camera Control Unit	9
Camera Specifications	10
System Components	11
Wiring Diagram	12
Damaged Shipment Claim Procedure	13
Revision History	15

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Although current at the time of publication, SKYTRON'S policy of continuous development makes this manual subject to change without notice.

EQUIPMENT LABELS AND SPECIFICATIONS

ATTENTION, CONSULT MANUAL FOR FURTHER INSTRUCTIONS.
INDICATES SPECIAL USER ATTENTION.

INDICATES DANGEROUS VOLTAGE
100-240V~, 50/60Hz

AC VOLTAGE

2A FUSE TYPE 2 AMP, 250V, TIMELAG

TYPE B EQUIPMENT

CLASS I, TYPE B EQUIPMENT- IPXO RATED.
CONTINUOUS OPERATION

CERTIFIED BY ETL TO THESE STANDARDS:

Audio, Video and Similar Electronic Apparatus: Safety Requirements - IEC 60065 : 2001 (7th Edition) + Amendment 1 Edition 7.1, 01-Dec- 2005 (Edition 7:2001 consolidated with amendment 1:2005)

Audio, Video and Similar Electronic Apparatus: Safety Requirements - ANSI/UL 60065, 7th Edition: June 30, 2003 rev. through and including Dec 11, 2007

Audio, Video and Similar Electronic Apparatus: Safety Requirements - CAN/CSA-C22.2 No. 60065:03 (R2007)

WARNING:
RISK OF FIRE
REPLACE FUSE AS MARKED

AVERTISSEMENT:
POUR CONTINUER DE PROTECTION CONTRE AU RISQUE DE FEU, REPLACER SEULEMENT AVEC LA MÊME CARACTÈRE CLASSÉ COMME DE FUSÉE.

CAUTION: CONSULT MANUAL FOR FURTHER INSTRUCTIONS

AVERTISSEMENT:
CONSULTER LE MANUAL POUR DE PLUS AMPLES INFORMATIONS

INDICATES DANGEROUS VOLTAGE
100-240V~,50/60Hz
RISQUE DE DANGER ÉLECTRIQUE
VOLTAGE, 100-240V~,50/60Hz

SKYTRON GRAND RAPIDS, MI · 616.656.2900
Precision HD

CAMERA CONTROLLER
ELECTRICAL RATING

INPUT	100-240V~	0.5A	50/60Hz
PART NUMBER	B1-710-59		
SERIAL NO.	0000		

Manufactured for SKYTRON by DAI-ICHI SHOMEI CO., LTD.TOKYO,JAPAN

CE

CAMERA CONTROL UNIT SAFETY INSTRUCTIONS

Read these instructions.

Keep these instructions.

Heed all warnings.

Follow all instructions.

Do not use this apparatus near water. This apparatus shall not be exposed to dripping or splashing and no objects that contain water such as vases, shall be placed on the apparatus.

Clean only with dry cloth.

Do not block any ventilation openings. Install in accordance with the manufacurer's instructions.

Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.

Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.

Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.

Only use attachments/accessories specified by the manufacturer.

Unplug this apparatus during lightning storms or when unused for long periods of time.

Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally or has been dropped. The Camera components do not require scheduled maintenance.

The end of the useful life of the product is when the product can no longer be serviced to comply with IEC standards as determined by a SKYTRON authorized service representative.

Ultimate disposal of this product should be handled according to all national laws and regulations.

SPECIAL USER ATTENTION

To help assure the highest degree of operating safety for user and patient, SKYTRON has provided precautionary instructions throughout this manual.

As with the operation of any surgical light, all hospital personnel should be aware that a certain amount of care must be exercised to maintain patient safety and to keep your SKYTRON Surgical Light performing at peak efficiency.

The following is a summary of the important precautionary instructions:

WARNING

Indicates a possibility of personal injury.

CAUTION

Indicates a possibility of damage to equipment.

NOTE

Indicates important facts or helpful hints

WARNING

Always inspect product prior to use to ensure safe and correct operation. any product deemed to be malfunctioning should be removed from service and labeled innoperable. Refer all service to at qualified SKYTRON service representative.

CAUTION

Make sure Main Power Switch on the light fixture Wall Control is in the OFF position before installing or removing the camera.

CAUTION

Make sure Camera Assembly is securely locked in lighthead before moving lighthead into use position.

NOTE

Sterilizable cover must be removed prior to removing camera.

CAUTION

Do not attempt to focus or position the lighthead using the camera body. Damage to the camera rotation motor may result.

CAUTION

Do not accidentally push in the Camera Release Button on the Lighthead Attachment Ring above the sterile handle, as this will cause the camera to disengage from the lighthead.

WARNING

Outputs are for connection to video components only.

INTRODUCTION

SKYTRON'S Precision HD Handle Camera System provides HD quality video to camera ready lightheads. The Sony single chip camera provides quality levels that are comparable to many 3 chip systems. The system design permits transport from room to room, wherever other Precision HD camera ready lightheads are available. The camera control unit can be connected to any existing monitor. A convenient wall jack is provided for camera control connection.

Figure 1. Precision HD Handle Camera in AUR7TV Lighthead

The Precision HD camera ready lighthead option includes the Camera Ready Lighthead, a counterweight for use when the light is to be operated with the camera removed, a sterilizable camera cover that is used for a positioning/focus handle and a connector face plate with a 65 foot cable that connects to the camera/light fixture.

The connector faceplate allows a quick connect or disconnect point for the camera control unit. The faceplate is mounted near where the camera control unit is to be located. It can be wall mounted, installed within a cabinet such as a nurse documentation center or installed on a SKYTRON Skyboom Equipment Carrier. Refer to page 10 for system components.

The Precision HD Handle Camera System consists of the camera, a camera control unit and two (2) cables. The camera mounts in the center of the lighthead and the sterilizable cover allows sterile positioning and focus control for the lighthead.

INSTALLATON

Camera Installation

CAUTION

Make sure Main Power Switch on the light fixture Wall Control is in the OFF position before installing or removing the camera.

Use the following procedure to install the camera system.

Figure 2.

Move lighthead to the full down position, and turn the lighthead so it faces up as shown in figure 2.

Insert the Camera Assembly into the lighthead attachment ring. Push and twist the camera to lock it into position. Pull out on the camera to verify that it is fully locked into position.

CAUTION

Make sure Camera Assembly is securely locked in lighthead before moving lighthead into use position.

Camera Removal

To remove the camera assembly from the lighthead, hold the camera firmly, and press the camera release button on the lighthead attachment ring (figure 3). Carefully pull the camera assembly straight out of the attachment ring.

NOTE

Sterilizable cover must be removed prior to removing camera.

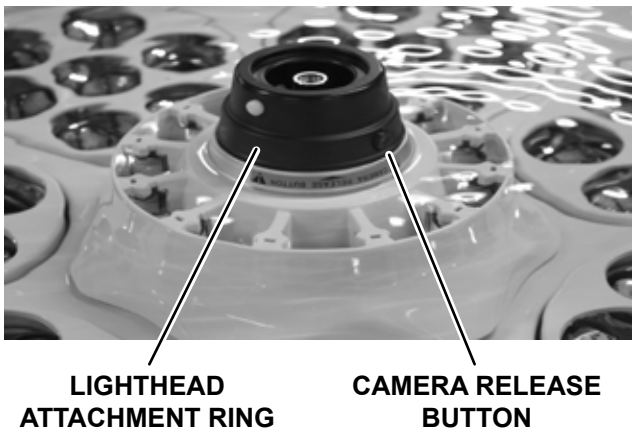


Figure 3.

Counterweight

The counterweight must be installed to maintain the proper weight required to balance the lighthead when the camera is not installed.

Install the counterweight in the lighthead and ensure that it is fully engaged by pulling and slightly turning it. Refer to figure 4.

To remove the counterweight from the lighthead, hold the counterweight firmly, and press the camera release button on the lighthead attachment ring (figure 3).

Figure 4. Counterweight

Sterilizable Cover

CAUTION

Do not attempt to focus or position the lighthead using the camera body. Damage to the camera rotation motor may result.

The camera has a sterilizable cover that, when installed, allows sterile positioning and focus control for the lighthead. There is also a non-sterile focus knob on the lighthead.

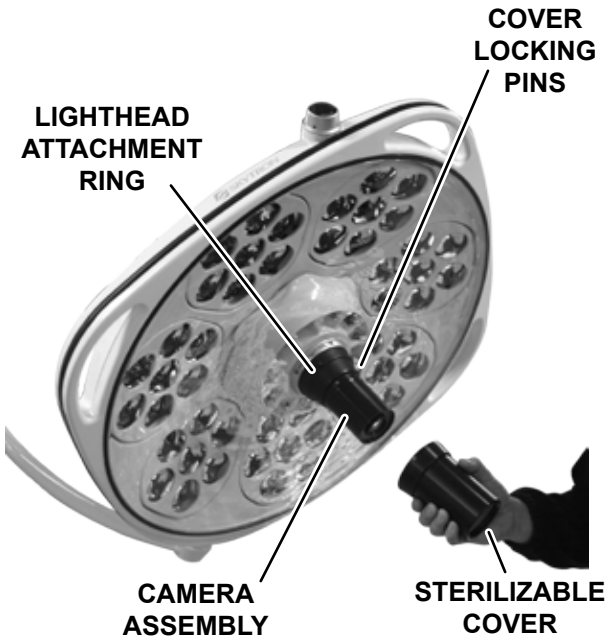


Figure 5.

To install the sterile cover, align the holes in the cover with the cover locking pins on the camera attachment ring and slide the cover on until it locks on the two pins. See figure 5. To remove the sterile cover, push the two white pins in and remove the sterile cover.

CAUTION

Do not accidentally push in the Camera Release Button on the Lighthead Attachment Ring above the sterile handle, as this will cause the camera to disengage from the lighthead.

Recommended sterilization parameters for sterilizable handle:

Steam Sterilization:
132°C (270°F) for 4 minutes

NOTE

Always follow the AAMI and sterilizer manufacturer recommendations for proper sterilization procedures.

Operation

All parts of the camera system are suitable for use within the patient area.

To ensure patient safety, do not touch any component of the system and the patient simultaneously.

Turn main power switch on at the Wall Control. Adjust the intensity control.

The focus of the bulbs within the lighthead can be adjusted by rotating the sterilizable cover or the side focus knob. See figure 6.

Figure 6.

To achieve optimal performance, install camera control unit on a flat surface that is easily accessable by the operator with a minimum clearance of 2” on sides. Do not block vents.

Camera Control Unit Configuration

1. Attach the Cable from the connector on the faceplate to the camera control unit (CCU). See figure 7.

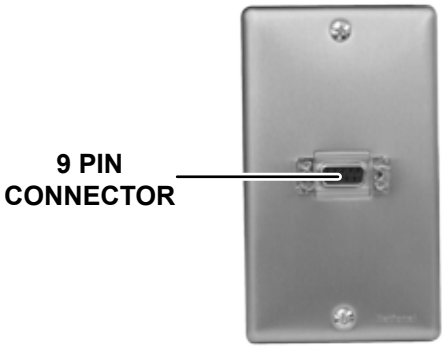


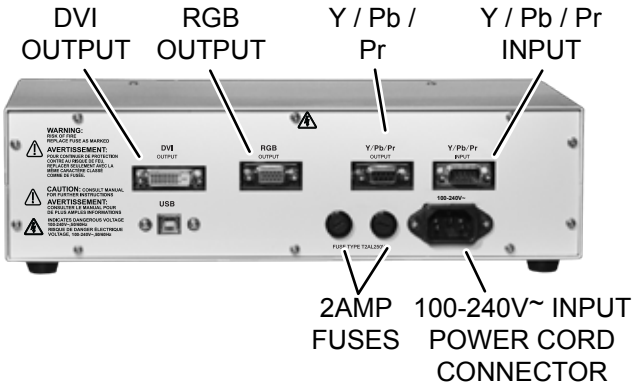
Figure 7. Camera Control Connector Faceplate

WARNING

Outputs are for connection to video components only.

2. Connect the video out cable (DVI, RGB, Component) from the camera control unit to the monitor or video imput.

3. Connect the power cord to the CCU and plug into 120 VAC outlet. See figure 8. This power cord is considered the main disconnect device and should remain accessible at all times.



Camera Control Unit

The Camera Control Unit provides controls for camera rotation, manual or automatic adjustment of Iris (Aperture), Zoom, Focus and One Push White Balance. Refer to figure 9 for control locations.

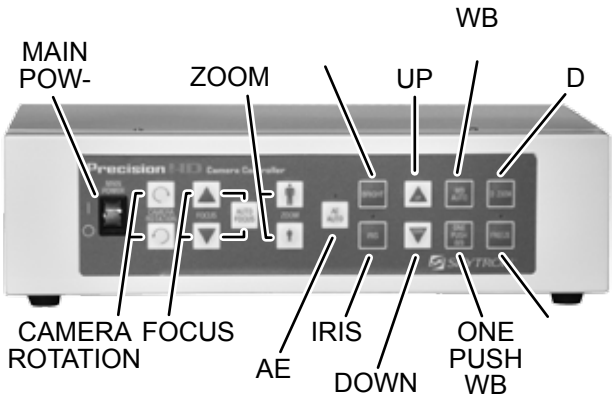


Figure 9. Camera Control Unit, front view

Description of Controls

MAIN POWER Switch - supplies power to the camera and control unit. Switch illuminates (green) when power is ON.

CAMERA ROTATION - allows clockwise and counterclockwise rotation of the camera. Press the button for clockwise rotation. Press the for counterclockwise rotation.

FOCUS - controls the focus of the camera lens. When Main Power switch is turned ON the Focus control is set to automatic. To operate the Focus control manually, press the AUTO button. The Focus symbol will display on the monitor when in the manual mode. Press the ▲ or ▼ button as required to obtain proper focus. Pressing the ▲ button sets the focus in the telephoto range. Pressing the ▼ button sets the focus in the wide angle range. Press the AUTO button again to activate the automatic function.

ZOOM - controls the image size. To make the subject larger, press the button. To make the subject smaller, press the button.

AE AUTO - allows automatic control of both IRIS and BRIGHT functions.

BRIGHT - adjusts both the gain and iris using an internal algorithm according to a brightness level freely set by the user. Exposure is controlled by gain when dark, and by iris when bright.

IRIS (Aperture) - controls the video signal brightness by opening or closing the iris of the camera to allow more or less light to enter the camera. When Main Power switch is turned ON the Iris control is set to automatic. To operate the Iris control manually, press the AE AUTO button. The “F” stop setting will display on the monitor when in the manual mode. Press the UP button to increase the brightness. Press the DOWN button to decrease the brightness. Press the AE AUTO button again to activate the automatic function.

UP / DOWN - used with IRIS and BRIGHT options.

D ZOOM - controls digital zoom function. When activated, extends zoom ratio from 10X to 40X.

DISPLAY - displays the current iris, zoom and focus settings on the monitor.

FREEZE - press to capture present view “snapshot”. Press again to resume normal operation.

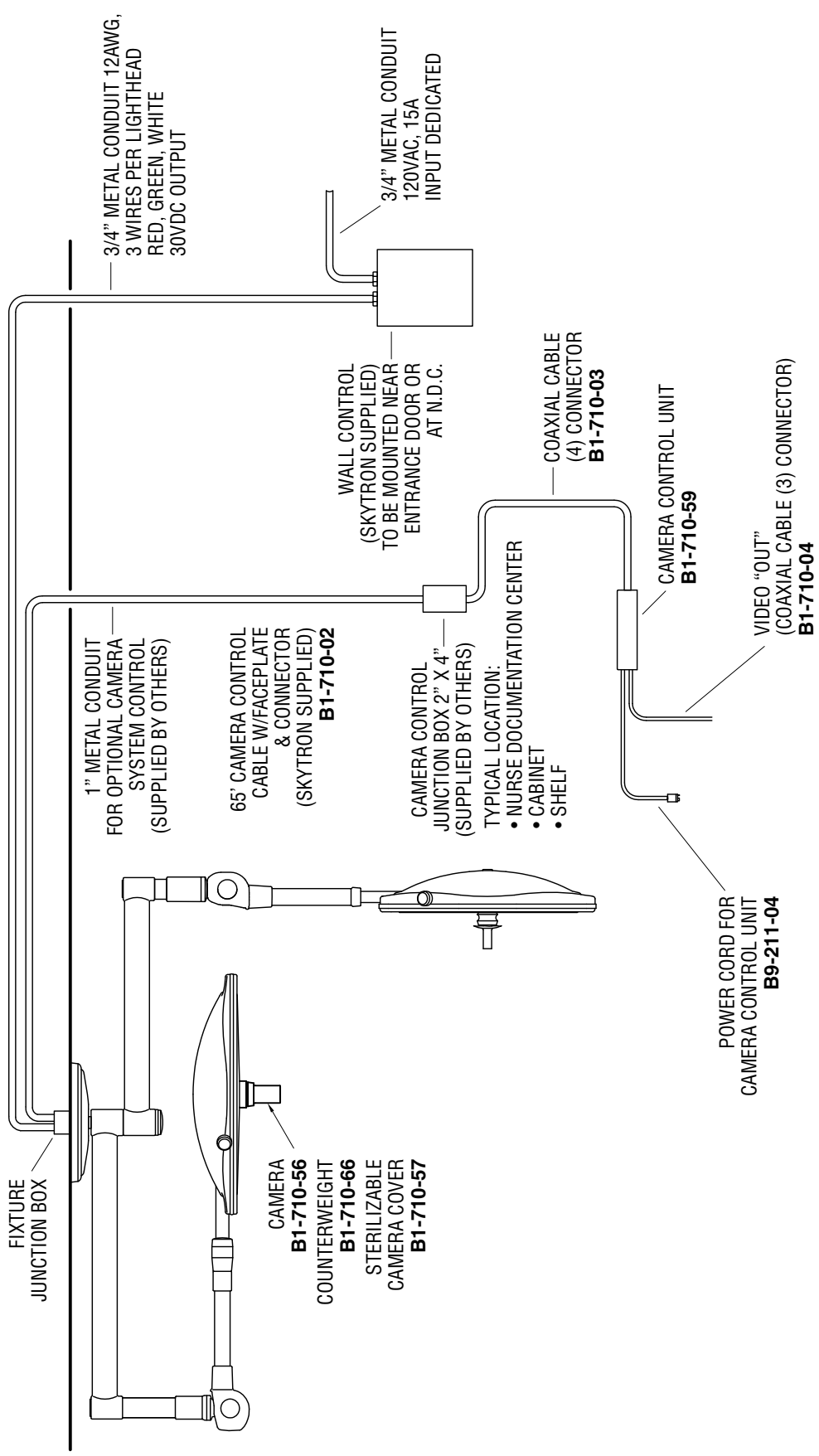
ONE PUSH WHITE BALANCE - press to white balance picture.

The Handle Camera system consists of a Lighthead handle mounted, super compact color HD camera with a 120X zoom (10X Optical, 12X Digital) with a high speed, auto focus lens and flexible outputs for video conferencing, broadcasting and point-of-view (POV) applications.v

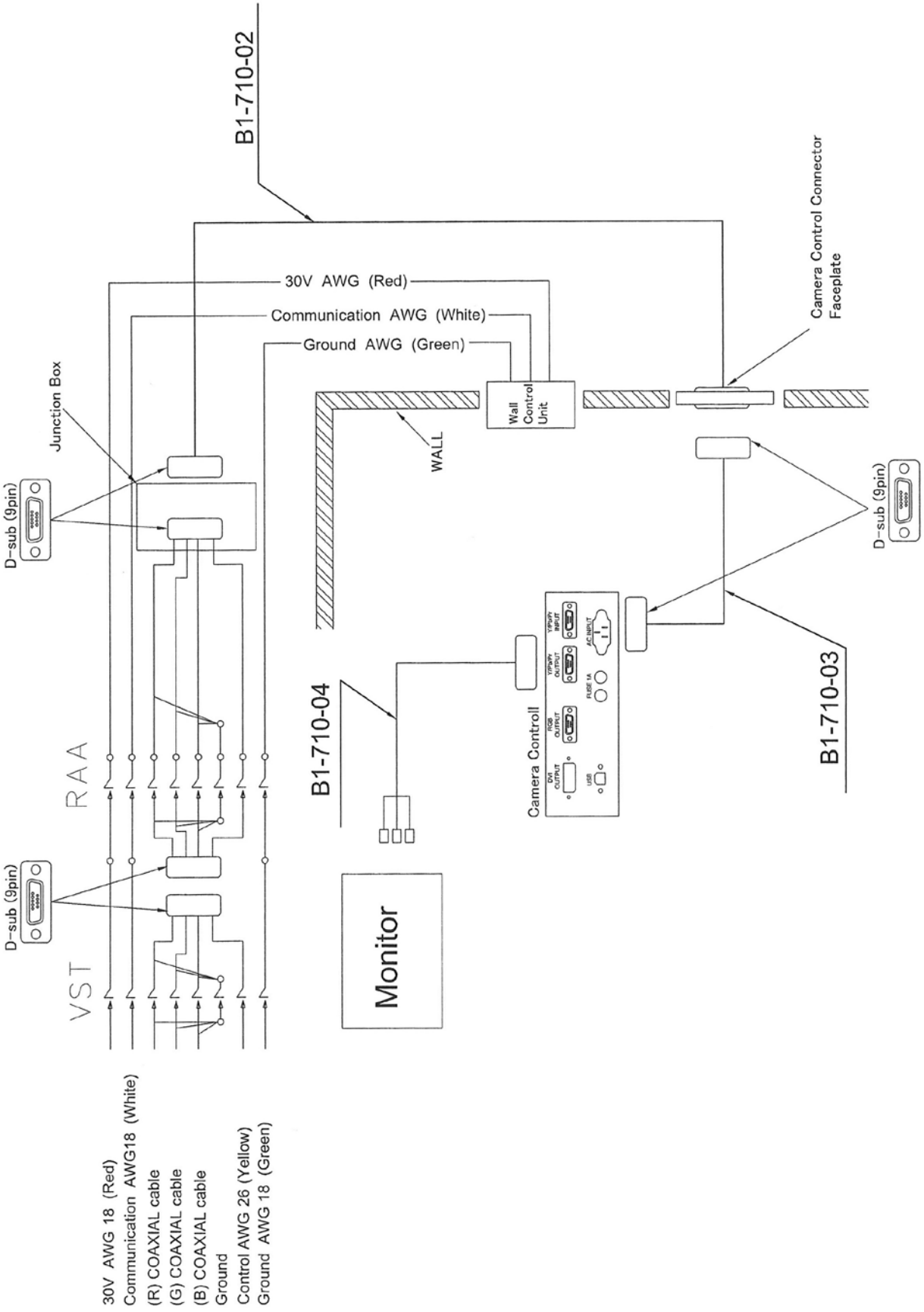
SPECIFICATIONS:

Image Sensor	1/3-type CMOS
Video Output	HD Analog Component: Y/Pb/Pr, RGB. HD Digital Component: DVI
Picture Elements	Approximately 2,000,000 pixels
Resolution	1080i (1920 X 1080) Analog 1080p (1920 X 1080) Digital
Lens	10X Optical Zoom f=5.1mm to 51.0mm (tele) F1.8 to F2.9
Zoom Ratio	10X-120X (Optical, 12X Digital)
Angle of View (H)	50 degrees (wide) to 5.4 degrees (tele)
Min. Object Distance	10mm (wide) to 800mm (tele)
Iris	Automatic/Manual
Min. Sensitivity	12 Lux (typical) (F1.8, 50 IRE)
S/N Ratio	More than 50dB
White Balance	Auto, One Push
Focus	Automatic/Manual
Camera Rotation	Clockwise/Counterclockwise 360 degrees
AE Control	Auto, Manual, Shutter Priority, Iris Priority, Bright, Spot AE
Outside Dimensions	12.7”w x 3.5”h x 7.5”d (320mm x 89mm x 191mm)
Weight	8 lbs. (3.6 kg)

SYSTEM COMPONENTS



PRECISION HD CAMERA SYSTEM



DAMAGED SHIPMENT CLAIM PROCEDURE

Whenever a shipment suffers damage while in the custody of the transportation company, the responsibility lies with the transportation company, and the value of the damages can be collected from the transportation company if the proper procedures are followed.

When a shipment is received in a damaged condition and due to the appearance of the containers such as a broken crate, torn wrapping, or smashed carton, the contents may have been damaged. That fact should be noted on the Bill of Lading offered by the transportation company. An example of an applicable statement would be; "Received in good order except as noted" or "Crate damaged, possibility of concealed damage." The addition of these types of statements on the shipping documents will automatically give grounds for starting a claim.

If damage cannot be identified on the exterior of the container, but is found when the container is opened, further unpacking should be stopped immediately and the container with all wrapping or packing materials should be held. The transportation company should be notified so an inspector can be sent. Failure to follow either of these two procedures may result in an inability to file a claim and collect for damage done. Returning the container to the sender without such an inspection may prevent filing a claim, because it will divide the responsibility for damage and in many cases the transportation company will return the shipment to the sender without charge after the inspection.

The claim itself may be filed by either the shipper or consignee, but the consignee must notify the transportation company and the shipper that the damage has occurred. Remember that refusal of the shipment or failure to note the possibility of damage on the shipping documents may jeopardize the claim. Also, acceptance of a damaged shipment which has been processed properly to allow for filing a claim, will not jeopardize the position of the consignee. In any case, SKYTRON will see that damage which is not the fault of the consignee or his agents is corrected, if the transportation company does not honor the claim, as long as SKYTRON receives the full cooperation of the consignee in filing the claim.

Some of the papers needed for filing a claim are in the hands of the consingnee after the shipment has been received. If SKYTRON must file a claim, we will request these papers by name from the consignee at such time as the claim is under discussion. We will require the originals of these papers and not copies.

Knowledge of the procedures outlined above and your cooperation in submitting damaged shipment claims will help both you, our customer, and SKYTRON by assuring the integrity of our products from manufacturing to installation.

REVISION HISTORY

Date	Revision	Author	Summary of Changes
01/31/2013	5	Bill Brady	Updated sterilization parameters and note on page 7.

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